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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/594,324 | 06/15/2000 | Toshio Matsumura | | 8859 |

7590 11/08/2005

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EXAMINER

CINTINS, IVARS C

| ART UNIT | PAPER NUMBER |
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1724

DATE MAILED: 11/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/594,324

Applicant(s)

MATSUMURA ET AL.

Examiner

Ivars C. Cintins

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-11 and 14-31 is/are pending in the application.
4a) Of the above claim(s) 25-31 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1, 3-11 and 14-24 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Art Unit: 1724

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 20 is again rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. As pointed out in the previous Office action, the term "conventional" (claim 20, line 2) is vague, and indefinite as to the limitation intended.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5, 21, 22 and 24 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (U.S. Patent No. 5,882,517) in view of VanderBilt et al. (U.S. Patent No. 4,753,728). As pointed out in the previous Office action, Chen et al. discloses a porous structure (filter) for separating unwanted constituents from a fluid (see col. 1, lines 4-9), which structure comprises activated carbon (col. 9, lines 48-49; and col. 16, line 31) in combination with a polymeric binder of the type recited (col. 6, lines 21-23; and col. 18, line 3). Accordingly, this reference discloses the claimed invention with the exception of the recited inlet and outlet for the filter, the exact melt index of the binder, and the exact density of this porous structure. However, since the porous structure of the reference is intended to be used as a filtration material, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide this reference material with a housing having an inlet and an outlet, in order to facilitate contact between this filtration material and the fluid undergoing

Art Unit: 1724

treatment. Also, VanderBilt et al. discloses that carbon block filters formed with very low melt index polymer binders (see col. 3, lines 30-37) will permit high flow rates, such as .8 and 1.0 gallons per minute (3.6 and 4.5 L/min, respectively). See TABLE II, examples 21 and 22. Since Chen et al. clearly discloses a melt index range which encompasses all of Applicant's recited values (col. 6, lines 19-23), it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ polymer binders with a melt index at the lower end of this disclosed range (i.e. between 1.1 and 2.3 g/10 min) to form the reference filter, if one wanted to maximize the flow rate through this filter. Furthermore, it would have been obvious of one of ordinary skill in the fluid purification art to employ a filter having the recited density in the system of the modified primary reference, since such a density would correspond to a porous structure called for by this modified primary reference. Moreover, Chen et al. clearly teaches utilizing carbon particles having a size of 10 microns (see col. 5, line 8), and these 10 micron particles are inherently capable of passing through "a mesh of 60-100," and also through "a mesh of larger than 100," as required by claim 1.

Claims 1, 3-11 and 14-24 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Unexamined Patent Application Publication No. 10-85729 in view of Chen et al., further in view of VanderBilt et al. As pointed out in the previous Office action, the primary reference discloses a filter cartridge comprising a chamber filled with activated carbon, and a hollow yarn membrane chamber. Accordingly, this primary reference discloses the claimed invention with the exception of the recited polymeric binder. Chen et al., as modified by VanderBilt et al. above, discloses a porous filter element of the type recited; and it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute

Art Unit: 1724

the filter element of the secondary references for the activated carbon of the primary reference, in order to obtain the advantages disclosed by these secondary reference for the system of the primary reference. As explained above, claim 1 does not preclude the use of a single carbon particulate material having a size such that it will pass through a mesh of larger than 100.

Applicant's arguments filed August 22, 2005 have been noted and carefully considered but are not deemed to be persuasive of patentability. Applicant argues that the terminology "60 to 100 mesh" is understood in the industry to mean that the particles can pass through a sieve of 60 mesh, but cannot pass through a sieve of 100 mesh. Applicant has submitted a copy of columns 5 and 6 from U.S. Patent No. 6,368,504 in support of this argument. While it is agreed that the notation "x" between two mesh sizes refers to a range of particle sizes (see col. 5, lines 33-35 of the cited patent), Applicant should note that the claims in this application do not utilize such a notation. The recitation of particles "capable of passing through a mesh of 60-100" is not deemed to be the same as a recitation of particles having a size of 60x100 mesh. The claimed term merely requires particles that can pass through a sieve having a size somewhere between 60 and 100 mesh. The 10 micron size carbon particles of Chen et al. (see col. 5, line 8) are capable of passing through a mesh of 60-100, and are also capable of passing through a mesh larger than 100 (e.g. 150); and therefore, these particles are deemed to satisfy the limitations recited in lines 10-13 of claim 1.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**


Art Unit: 1724

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is 571-272-1155. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Duane Smith, can be reached at 571-272-1166.

The centralized facsimile number for the USPTO is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ivars C. Cintins
Primary Examiner
Art Unit 1724

I. Cintins
November 4, 2005